

Remarks

Claim 30 has been amended to recite a coating station "having a non-uniform applicator that directly or indirectly applies a substantially uneven coating to at least some of the exposed portion of a filamentous article such that along a 1 meter length of the article the coating has voids or low spots whose minimum thickness is less than one-half the average coating thickness along that length". Support for this amendment can be found in the written description at, e.g., paragraphs 0023, 0026, 0027 and 0030. Following entry of this amendment, claims 30 – 50 will be pending in this application with claims 1 – 29 and 51 – 57 having been withdrawn.

The Final Rejection withdrew the previously-imposed rejection of claims 49 and 50 and did not impose a new rejection. However, claims 49 and 50 were not said to be allowable or allowed. An indication that claims 49 and 50 are allowable or allowed would be appreciated, as would the entry of this amendment and allowance of claims 30 – 47.

Double Patenting Rejection

Claims 30, 33, 34 and 36 – 38 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 63 – 65, 67 and 68 of co-pending Application Serial No. 09/757,955. Applicant would be willing to submit an appropriate terminal disclaimer in the present application to overcome this rejection following indication that present claims 30, 33, 34 and 36 – 38 and '955 Application claims 63 – 65, 67 and 68 are allowable.

Rejection of Claims 30, 32, 33, 35, 42 – 45 and 48 under 35 USC §102(b)

Claims 30, 32, 33, 35, 42 – 45 and 48 were rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 2,570,173 (Von Kohorn), on grounds, *inter alia*, that:

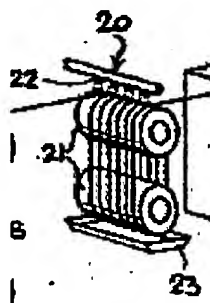
"Regarding Claims 30, 32, 33, Von Kohorn discloses a device comprising a coating station (20) that directly sprays a substantially uneven coating to at least some of the exposed portion of a filamentous article and an improvement station comprising two or more rotating rolls (21) that periodically contact and re-contact the wet coating at different positions along the length of the filamentous article (Figure; column 4, lines 4 - 20); Von Kohorn also discloses the coating station which is capable of

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periodically applying the coating liquid, and of changing the application period by turning the spray nozzles on and off."

Applicant respectfully disagrees. Von Kohorn's "continuous liquid aftertreating device 20" completely saturates a yarn with a treatment liquid by passing the yarn six times under a set of four spray nozzles 22, and applies sufficient treatment liquid to require use of a catch trough 23 to recover excess applied treatment liquid (see e.g., the drawing and column 4, lines 13-20):



Von Kohorn's device does not have a "non-uniform applicator" as recited in claim 30. Spray nozzles 22 saturate the yarn. Also, Von Kohorn's device is not "capable of periodically applying the coating liquid, and of changing the application period by turning the spray nozzles on and off" as asserted in the Final Rejection. No valve or other structure capable of turning spray nozzles 22 on and off is shown in Von Kohorn. Finally, Von Kohorn's device does not apply (and as shown, is not capable of applying) "a substantially uneven coating to at least some of the exposed portion of a filamentous article such that along a 1 meter length of the article the coating has voids or low spots whose minimum thickness is less than one-half the average coating thickness along that length" as recited in amended claim 30.

The Final Rejection asserts that:

"In response to applicant's argument that Von Kohorn does not anticipate a substantially uneven coating to the yarn, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See In re Casey, 152

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USPQ 235 (CCPA 1967) and In re Otto, 136 USPQ 458, 459 (CCPA 1963). The apparatus disclosed by Von Kohorn is capable of spraying a substantially uneven coating to at least some of the exposed portion of a filamentous article. Although Von Kohorn does not specifically speak to applying an uneven coating, as stated in the previous Office Action the spray nozzles may be turned on and off, thereby providing an uneven coating, as well as periodically applying the coating liquid. In addition, by applying an uneven coating to yarn using spray nozzles that are turned on and off, and then contacting said yarn with rolls as disclosed by Von Kohorn, one in the art would know the uneven or voided coating would be converted to a void-free coating."

Applicant has amended claim 30 to recite a "non-uniform applicator", thereby providing further recitation of the requested structural difference. This should be sufficient to overcome the rejection. If not, applicant notes that *In re Casey* and *In re Otto* are relatively old CCPA cases, and that they are much less timely and much less relevant than *In re Mills*, 16 USPQ2d 1490 (Fed. Cir. 1990) and *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

In re Mills involved an obviousness rejection of claims to an apparatus for producing aerated cementitious compositions. The claimed apparatus achieved aeration by driving its output pump at a capacity greater than the feed rate, thereby drawing air into the composition. The sole cited reference (Mathis) included a mixing chamber equipped with separate input and output motors. The Board reasoned that "the Mathis machine is capable of being operated in such a fashion as to cause [the output] pump 18 to draw air into the mixing chamber 17 so that it is entrained in the mixture" (16 USPQ2d at 1432). The Federal Circuit reversed, noting that "While Mathis' apparatus may be capable of being modified to run the way Mills' apparatus is claimed, there must be a suggestion or motivation in the reference to do so" (*id* at 1432), and citing *In re Gordon*. The present situation is similar. Nothing in Von Kohorn discloses that aftertreating device 20 should be modified by adding to it a valve or other controls to turn the nozzles 22 on and off.

Applicant notes for the record that *In re Mills* and *In re Gordon* involved obviousness rejections, not an anticipation rejection. However, their reasoning is nonetheless applicable here, particularly since Von Kohorn does not include a valve or other controls that would be needed to carry out the asserted on and off spray nozzle operation.

The Final Rejection also asserts that:

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"Regarding Claims 35, 42 - 45 and 48, Von Kohorn discloses the rolls have the same period of contact with the filamentous article, wherein the filamentous article has a direction of motion and the direction of rotation of all the rolls is the same as the direction of motion, wherein there is substantially no slippage between the rolls and the filamentous article; and wherein a voided coating is applied to the filamentous article and converted by contact with the rolls to a void-free coating (Figure; column 4, lines 4 - 23)."

Applicant respectfully disagrees. The cited passages in Von Kohorn do not disclose applying a "voided coating" or conversion of such a coating "by contact with the rolls to a void-free coating". Applicant can find no disclosure anywhere in Von Kohorn of applying a voided coating or converting such a coating to a void-free coating.

Applicant accordingly requests withdrawal of the rejection of claims 30, 32, 33, 35, 42 - 45 and 48 under 35 USC §102(b) as being anticipated by Von Kohorn.

Rejection of Claims 30 - 33, 36 - 45 and 48 under 35 USC §102(b)

Claims 30 - 33, 36 - 45 and 48 were rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 2,867,108 (Severini), on grounds, *inter alia*, that:

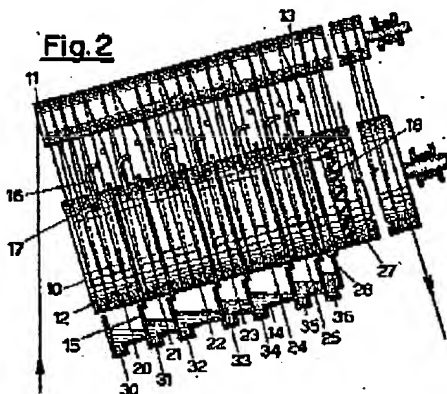
"Regarding Claims 30 - 33, Severini discloses a device comprising a coating station (16) that indirectly sprays by means of a shower nozzle or drips by means of a pipe (column 4, lines 43 - 48) a substantially uneven coating to at least some of the exposed portion of a filamentous article ... (Figures 1 and 2; column 4, lines 43 - 62 and column 5, lines 16 - 37);"

Severini does not disclose a "non-uniform applicator" as recited in amended claim 30. Also, Severini does not disclose a coating station that "drips by means of a pipe" and does not show any applicator that applies a "substantially uneven" coating. Moreover, Severini's device does not apply (and as shown, is not capable of applying) "a substantially uneven coating to at least some of the exposed portion of a filamentous article such that along a 1 meter length of the article the coating has voids or low spots whose minimum thickness is less than one-half the average coating thickness along that length" as recited in amended claim 30. Severini carries out "continuous wet processing treatments" (see e.g., col. 9, lines 43 - 48). He saturates his yarn, employing "relatively abundant quantities of treatment liquors" that are "abundantly fed" to roller 10 by "a device 16 for distributing the processing liquor or wash

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water that is to act on the thread in said zone, which may be, as illustrated in the drawings, a simple pipe with a suitably positioned orifice or may be a shower nozzle or another distributing device." The applied liquid forms a "relatively abundant" liquid film which wets the uphill faces of each flange 12 and flows into the cells in trough 14 (see col. 5, lines 43 – 65 and Fig. 2):



Severini nowhere mentions dripping a liquid onto the roller, although he does say that flanges or separate "drip pans" may be employed to collect drips from the roller (see e.g., col. 8, line 9 and col. 10, lines 12, 31 and 39).

The Final Rejection also asserts that:

"Severini also discloses the coating station which is capable of periodically applying the coating liquid, and of changing the application period by turning the spray nozzles on and off."

And that:

"Although both Severini and Guertin does not specifically speak to applying an uneven coating, as stated in the previous Office Action the spray nozzles may be turned on and off, thereby providing an uneven coating, as well as periodically applying the coating liquid. In addition, by applying an uneven coating to yarn using spray nozzles that are turned on and off, and then contacting said yarn with rolls as disclosed by both Severini and Guertin, one in the art would know the uneven or voided coating would be converted to a void-free coating."

Applicant respectfully disagrees. Severini does not disclose a non-uniform applicator, and does not disclose a valve or other controls that would be needed to carry out the asserted on and off spray nozzle operation.

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The Final Rejection also asserts that:

"Regarding Claims 36 - 45 and 48, Severini discloses the rolls that do not have the same period of contact with the filamentous article, wherein the rolls all have different periods of contact with the filamentous article and wherein the rotational periods of the rolls are not periodically related; wherein the filamentous article has at least 13 contacts with the rolls following application of the substantially uneven coating (Figures 1 and 2), wherein the filamentous article has a direction of motion and the direction of rotation of all the rolls is the same as the direction of motion, wherein there is substantially no slippage between the rolls in the filamentous article; and wherein a voided coating is applied to the filamentous article and converted by contact with the rolls to a void-free coating (Figures 1 and 2; column 3, line 66 - column 4, line 11)."

Applicant notes with respect to claims 36 - 45 and 48 that Severini does not disclose the non-uniform applicator recited in amended parent claim 30. Applicant notes further with respect to claim 48 that Severini nowhere discloses applying a "voided coating" to a filamentous article and nowhere discloses conversion of such a coating "by contact with the rolls to a void-free coating".

Applicant accordingly requests withdrawal of the rejection of claims 30 - 33, 36 - 45 and 48 under 35 USC §102(b) as being anticipated by Severini.

Rejection of Claims 30 - 33, 36 - 45 and 48 under 35 USC §102(b)

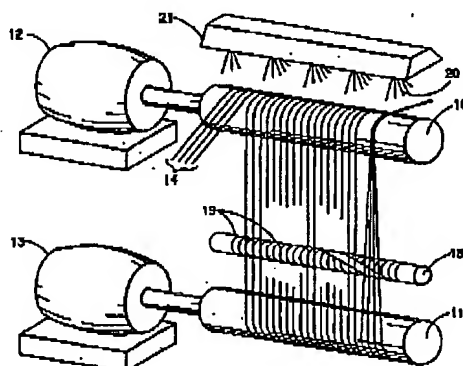
Claims 30 - 34, 36, 38, 39, 42 - 46 and 48 were rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,034,250 (Guertin), on grounds, *inter alia*, that:

"Regarding Claims 30 - 33, Guertin discloses a device comprising a coating station (21) that directly sprays or drips a substantially uneven coating to at least some of the exposed portion of a filamentous article and an improvement station comprising two or more rotating rolls (10) (11) (18) that periodically contact and re-contact the wet coating at different positions along the length of the filamentous article (Figure; column 2, lines 56 - 66)"

Guertin saturates his yarn with a treatment liquid 20 by passing the yarn several times (for example, six times in Example 1) under a set of five spray nozzles mounted in manifold 21:

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Guertin does not disclose a "non-uniform applicator" as recited in amended claim 30. Also, Guertin does not disclose a coating station that "directly sprays or drips a substantially uneven coating". Moreover, Guertin's device does not apply (and as shown, is not capable of applying) "a substantially uneven coating to at least some of the exposed portion of a filamentous article such that along a 1 meter length of the article the coating has voids or low spots whose minimum thickness is less than one-half the average coating thickness along that length" as recited in amended claim 30.

The Final Rejection also asserts that:

"Guertin also discloses the coating station which is capable of periodically applying the coating liquid, and of changing the application period by turning the spray nozzles on and off."

Guertin does not disclose a valve or other control that would be needed to carry out the asserted periodic coating liquid application or on and off spray nozzle operation.

The Final Rejection also asserts that:

"Regarding Claims 34, 36, 38, and 39, Guertin discloses at least three rolls, wherein the rolls do not have the same period of contact with filamentous article; wherein the rotational periods of the rolls are not periodically related; and wherein the filamentous article has at least five contacts with the rolls following application of the substantially uneven coating (Figure)."

Applicant notes with respect to each of these claims that Guertin does not disclose application of a substantially uneven coating as recited in amended parent claim 30.

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The Final Rejection also asserts that:

"Regarding Claims 42 - 46 and 48, Guertin discloses the filamentous article ... wherein a voided coating is applied to the filamentous article and converted by contact with the rolls to a void-free coating (Figure; column 2, line 56 - column 3, line 15).

Guertin nowhere discloses applying a "voided coating" or conversion of such a coating "by contact with the rolls to a void-free coating".

Applicant accordingly requests withdrawal of the rejection of claims 30 - 34, 36, 38, 39, 42 - 46 and 48 under 35 USC §102(b) as being anticipated by Guertin.

Rejection of Claim 31 under

35 USC §§102(b)/103(a) and Von Kohorn

Claim 31 was rejected under 35 USC §102(b) as anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Von Kohorn, on grounds that:

"Von (Kohorn) discloses using a coating station (20). The sprayers of the coating station are considered capable of dripping an uneven coating to at least some of the exposed portion of a filamentous article. In any event, it would have been obvious to use dripping means to conserve coating material and prevent excess coating material from being wasted in the coating area by spraying."

Von Kohorn does not disclose a device having a coating station that "drips the coating liquid onto the filamentous article or onto a roll" as recited in claim 31, and does not disclose a "non-uniform applicator" as recited in amended parent claim 30. As noted above in *In Re Mills* and *In re Gordon*, the alleged capability of Von Kohorn's device is not the issue; although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so", see *In re Gordon* and MPEP §2143.01. As is typical in the coating arts, Von Kohorn applies excess coating liquid. Doing so avoids the risk of incomplete yarn saturation. Von Kohorn does not provide any suggestion or motivation to "prevent excess coating material from being wasted in the coating area by spraying" and would not need to do so. Von Kohorn uses catch trough 23 to collect and if need be recirculate excess treating liquid. Applicant accordingly requests withdrawal of the rejection of Claim 31 under 35 USC §102(b) as anticipated by or under 35 USC §103(a) as obvious over Von Kohorn.

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**Rejection of Claim 31 under
35 USC §§102(b)/103(a) and Guertin**

Claim 31 was also rejected under 35 USC §102(b) as anticipated by or, in the alternative, under 35 USC §103(a) as obvious over Guertin, on grounds that:

"Guertin discloses using a coating station (21). The sprayers of the coating station are considered capable of dripping an uneven coating to at least some of the exposed portion of a filamentous article. In any event, it would have been obvious to use dripping means to conserve coating material and prevent excess coating material from being wasted in the coating area by spraying."

Applicant disagrees for the reasons already indicated above with respect to the 102/103 rejection based on Von Kohorn. Like Von Kohorn, Guertin does not disclose a device having a coating station that "drips the coating liquid onto the filamentous article or onto a roll" as recited in claim 31, and does not disclose a "non-uniform applicator" as recited in amended parent claim 30. Guertin does not show whether he uses a catch trough, but as shown in Von Kohorn and in Severini such catch troughs appear to be conventionally employed in yarn treatment. Applicant accordingly requests withdrawal of the rejection of Claim 31 under 35 USC §102(b) as anticipated by or under 35 USC §103(a) as obvious over Guertin.

Rejection of Claim 47 under 35 USC §103(a)

Claim 47 was rejected under 35 USC §103(a) as being unpatentable over Guertin as applied to claim 30 above, in view of U.S. Patent No. 4,059,068 (Guillermin et al.), on grounds that:

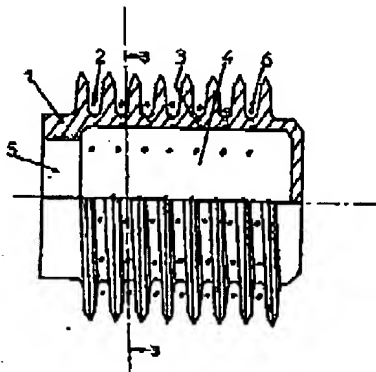
"Guertin discloses all the limitations of Claim 30, but does not specifically disclose all of the rolls to have grooves. However, Guillermin et al. teaches using grooved rolls for treatment of filamentary products (column 1, lines 37 - 43). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use grooves for all the rolls of the treatment apparatus to reduce friction (column 1, line 39) and to place the filamentary product in a desired location."

Applicant respectfully disagrees. Guertin does not disclose "all the limitations of claim 30" for the reasons indicated above. For example, Guertin does not disclose a "non-uniform applicator" and does not apply "a substantially uneven coating to at least some of the exposed

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portion of a filamentous article such that along a 1 meter length of the article the coating has voids or low spots whose minimum thickness is less than one-half the average coating thickness along that length" as recited in amended parent claim 30. Guillermin et al. do not cure Guertin's deficiencies. Guillermin et al. describe a grooved cylinder 1 whose helical groove 2 has orifices 3 for distributing fluid under sufficient pressure to suspend a yarn 6 that makes multiples passes through groove 2:



This would saturate the yarn with the supplied fluid, and is said by Guillermin et al. to avoid non-uniform treatment of the yarn (see e.g., col. 1, lines 23 - 34). Guillermin et al. clearly do not disclose a non-uniform applicator as recited in amended parent claim 30. Applicant accordingly requests withdrawal of the rejection of claim 47 under 35 USC §103(a) as being unpatentable over Guertin in view of Guillermin et al.

Conclusion

Applicant has made an earnest effort to resolve all issues. Claims 49 and 50 should have been allowed as they are not subject to any rejection. Claims 30 - 48 should also be in condition for allowance for the reasons explained above. The Examiner is encouraged to telephone the undersigned attorney at 612-331-7412 if there are any unanswered questions concerning this application, if a Terminal Disclaimer will be required, or if cancellation of the withdrawn claims is needed.

Registration Number	Telephone Number
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Date	
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Respectfully submitted on behalf of
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